E-POSTER PRESENTATION

ABSTRACT P1

Thyrotropin Alfa Administration for High-Dose Activity Radioactive Iodine Treatment in Differentiated Thyroid Cancer – Institutional Practice and Real-World Experience

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Objectives: Radioactive iodine (RAI) treatment after surgery in differentiated thyroid cancer (DTC) is well advocated. Thyrotropin alfa is primarily used in preparing non-metastatic patients for RAI remnant ablation and diagnostic whole-body scan (WBS) or testing of stimulated thyroglobulin (Tg) by elevating the level of thyroid stimulating hormone (TSH). However, only limited data available on its adjunctive use in advanced DTC. We aimed to evaluate institutional real-world practice of thyrotropin alfa among DTC patients receiving high-dose RAI treatment. **Methods:** Review and analysis of those who received thyrotropin alfa for high-dose RAI >80 mCi at our institution (2017-2018) and attended subsequent clinic monitoring sessions. Positive anti-Tg cases and those defaulted management or follow-up were excluded. In total, 21 patients were included. Safety profile of thyrotropin alfa and clinical parameters including TSH levels, Tg levels at 6-12 months post-treatment and disease status with a minimum follow-up of 3 years. **Results:** Mean age was 52.6 years old. Majority being females (n=14), follicular thyroid cancer (n=11), stage IV disease (n=12) and without comorbidity (n=11). Main indication for thyrotropin alfa was adjunctive use (n=14). No major side effects reported. All had adequate TSH increment. Pre-treatment serum Tg were markedly raised in 10 cases. Majority had positive immediate post-treatment WBS (n=20). Patients were planned for further RAI treatment (n=14) and oncology referral (n=7). Stage IV patients had higher mean Tg level at 6-12 months after high-dose RAI with thyrotropin alfa compared to Stage I-III patients (269.1 vs. 6.2 ng/ml, $p<0.05$). Significant association noted between stage IV and substantial residual or RAI refractory disease at follow up ($p<0.05$). **Conclusion:** Among our advanced DTC cohort, thyrotropin alfa was generally well-tolerated with no major side effect. Its primary indication was adjunctive use. Stage IV patients had higher mean of post-treatment Tg and substantial residual or RAI refractory disease on follow-up.

Keywords: differentiated thyroid cancer, thyrotropin alfa

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